

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A method for introducing one or more substances into an intervertebral disc, the method comprising:
 - positioning a distal portion of a catheter device in the disc;
 - anchoring the distal portion of the catheter device after it has been positioned to maintain the distal portion in the disc, wherein the distal portion remains anchored even when the patient changes position; and
 - introducing at least one substance into the disc through the catheter device while the distal portion remains anchored in the disc.
2. (Original) A method as in claim 1, wherein positioning the distal portion comprises passing the catheter device through a lumen of an introducer device.
3. (Original) A method as in claim 2, wherein positioning the catheter device comprises:
 - passing the catheter device through the lumen of the introducer device over a pointed stylet;
 - piercing through an annulus fibrosis of the disc using the stylet; and
 - withdrawing the stylet from the catheter device.
4. (Original) A method as in claim 2, wherein positioning the distal portion further comprises piercing through an annulus fibrosis of the disc with a tapered distal end of the catheter device.
5. (Original) A method as in claim 4, wherein positioning the distal portion further comprises passing the catheter device over a guidewire.

6. (Original) A method as in claim 2, wherein a distal end of the introducer device is advanced to a position in the disc before the catheter device is passed through the introducer device .

7. (Original) A method as in claim 6, wherein positioning the distal portion further comprises passing the catheter device over a guidewire.

8. (Original) A method as in claim 7, wherein the catheter device is passed through the introducer device over a guidewire.

9. (Original) A method as in claim 7, wherein the introducer device is removed over the guidewire before the catheter device is passed over the guidewire.

10. (Original) A method as in claim 1, wherein positioning the distal portion comprises visualizing at least one radiopaque marker or material at or near the distal portion to assess the location of the distal portion.

11. (Original) A method as in claim 1, wherein anchoring comprises deploying at least one anchoring member of the catheter device.

12. (Original) A method as in claim 11, wherein the at least one anchoring member is deployed on or near the distal portion of the catheter device.

13. (Original) A method as in claim 12, wherein anchoring comprises inflating at least a first expandable member in the disc.

14. (Original) A method as in claim 13, further comprising inflating at least a second expandable member adjacent an outer surface of the disc.

15. (Original) A method as in claim 1, wherein anchoring comprises deploying at least one mechanism on or near the distal portion of the catheter device to increase the effective cross-sectional diameter of the catheter at one or more locations.

16. (Original) A method as in claim 15, wherein increasing the cross-sectional diameter comprises releasing one or more shape memory or spring loaded members from constraint.

17. (Original) A method as in claim 15, wherein increasing the cross-sectional diameter comprises actuating one or more mechanical members of the catheter.

18. (Original) A method as in claim 15, wherein increasing the cross-sectional diameter comprises moving an inner catheter shaft of the catheter device relative to an outer catheter shaft of the catheter device to cause one or more anchoring members to buckle outwards.

19. (Currently amended) A method as in claim 1, wherein anchoring comprises ~~causing deforming~~ at least part of the distal portion to change from a substantially straight shape to a substantially curved or geometric shape.

20. (Original) A method as in claim 1, wherein anchoring comprises attaching part of the distal portion to an annulus fibrosis of the disc.

21. (Original) A method as in claim 20, wherein attaching part of the distal portion to the annulus fibrosis comprises at least one of screwing, twisting and piercing the part of the attachment member into the annulus fibrosis.

22. (Original) A method as in claim 1, wherein introducing the at least one substance comprises introducing at least one of an anesthetic; an analgesic; an antibiotic; a hydrating agent such as hypotonic saline, isotonic saline or hypertonic saline; a supportive agent such as a hydrogel, ethylene-vinyl alcohol copolymer, Dimethyl Sulfoxide or Tantalum; a prolotherapy agent such as sodium morrhuate, cod oil, phenol, minerals or ethyl alcohol; and other agents such as collagen, stem cells, Osteogenic Protein-1, ethanol, alcohol, steroids, radio-opaque contrast agents, ultrasound contrast agent, Bone Morphogenetic Protein (BMP), BMP-2, BMP-4, BMP-6, BMP-7, BMP-12, Serotonin 5-HT_{2A} receptor inhibitors, LMP-1, TIMP-1,

TGF-1, TGF-2, Rofecoxib, Ketorolac, Glucosamine, Chondroitin Sulfate, Dextrose, DMSO, non-steroidal antiinflammatory drugs, ibuprofen, naprosyn, Bextra, Vioxx, Celebrex, indomethacin, botulinum toxin, capsaicin, vanilloid agonists, vanilloid antagonists, VR1, VRL-1, steroids, methylprednisolone or chymopapain.

23. (Original) A method as in claim 22, wherein at least two different substances are introduced into the disc.

24. (Original) A method as in claim 1, wherein introducing the at least one substance comprises introducing a placebo substance into the disc.

25. (Currently amended) A method as in claim 1, further comprising, ~~before introducing the at least one substance,~~ causing the patient to assume a position in which substantial spinal pain is experienced, wherein the at least one substance includes at least one anesthetic or analgesic.

26. (Original) A method as in claim 25, further comprising:
positioning a distal portion of a second catheter device in a second intervertebral disc;
anchoring the distal portion of the second catheter device to maintain the distal portion in the second disc; and
introducing at least one substance into the second disc through the second catheter device.

27. (Currently amended) A method as in claim 26, further comprising, ~~before introducing the at least one substance into the second disc,~~ causing the patient to assume a position in which substantial spinal pain is experienced, wherein the at least one substance includes at least one anesthetic or analgesic.

28. (Original) A method as in claim 27, further comprising determining which of the discs into which the at least one substance was introduced is causing the patient's spinal pain.

29. (Original) A method as in claim 25, further comprising performing a discography procedure on the intervertebral disc before positioning the distal portion of the catheter device in the disc.

30. (Original) A method as in claim 25, further comprising performing a discography procedure on the intervertebral disc after introducing the at least one anesthetic or analgesic.

31. (Original) A method as in claim 1, wherein the at least one substance is introduced automatically over a period of time.

32. (Original) A method as in claim 31, further comprising recording one or more patient inputs describing back pain experienced by the patient.

33. (Original) A method as in claim 1, further comprising:
leaving the catheter device in position with the distal portion in the disc; and
administering the at least one substance over time to provide treatment of spinal pain.

34. (Original) A method as in claim 33, wherein at least one substance is administered over time via a subcutaneous injection port or implanted pump, the method further comprising coupling the catheter device to the subcutaneous injection port or implanted pump.

35. (Currently amended) A method for identifying an intervertebral disc that is causing pain, the method comprising:

positioning a distal portion of a catheter device in a disc of a patient;

anchoring the distal portion of the catheter device after it has been positioned to maintain the distal portion in the disc;

causing the patient to assume a position in which substantial spinal pain is experienced; and

introducing at least one ~~substance~~ analgesic or anesthetic into the disc through the catheter either before or after the patient has assumed the position, wherein the patient observes whether the analgesic or anesthetic has reduced the pain experienced.

36. (Original) A method as in claim 35, wherein positioning the distal portion comprises passing the catheter device through a lumen of an introducer device.

37. (Original) A method as in claim 36, wherein positioning the catheter device comprises:

passing the catheter device through the lumen of the introducer device over a pointed stylet;

piercing through an annulus fibrosis of the disc using the stylet; and
withdrawing the stylet from the catheter device.

38. (Original) A method as in claim 36, wherein positioning the distal portion further comprises piercing through the annulus fibrosis into the disc with a tapered distal end of the catheter device.

39. (Original) A method as in claim 38, wherein positioning the distal portion further comprises passing the catheter device over a guidewire.

40. (Original) A method as in claim 36, wherein a distal end of the introducer device is advanced to a position within the disc before the catheter device is passed through the introducer device.

41. (Original) A method as in claim 40, wherein positioning the distal portion further comprises passing the catheter device over a guidewire.

42. (Original) A method as in claim 41, wherein the catheter device is passed through the introducer device over a guidewire.

43. (Original) A method as in claim 41, wherein the introducer device is removed over the guidewire before the catheter device is passed over the guidewire.

44. (Original) A method as in claim 35, wherein positioning the distal portion comprises visualizing at least one radiopaque marker or material at or near the distal portion to assess the location of the distal portion.

45. (Original) A method as in claim 35, wherein anchoring comprises deploying at least one anchoring member of the catheter device.

46. (Original) A method as in claim 45, wherein the at least one anchoring member is deployed on or near the distal portion of the catheter device.

47. (Original) A method as in claim 46, wherein anchoring comprises inflating at least a first expandable member in the disc.

48. (Original) A method as in claim 47, further comprising inflating at least a second expandable member adjacent an outer surface of the disc.

49. (Original) A method as in claim 35, wherein anchoring comprises deploying at least one mechanism along the distal portion of the catheter device to increase the effective cross-sectional diameter of the catheter at one or more locations.

50. (Original) A method as in claim 35, wherein anchoring comprises causing at least part of the distal portion to change from a substantially straight shape to a substantially curved or geometric shape.

51. (Original) A method as in claim 35, wherein anchoring comprises attaching part of the distal portion to an annulus fibrosis of the disc.

Claim 52 (Canceled).

53. (Currently amended) A method as in claim 35, ~~wherein further~~ comprising introducing ~~the~~ at least one substance comprises introducing a placebo substance into the disc.

Claims 54-55 (Canceled).

56. (Currently amended) A method as in claim 35, further comprising:
positioning a distal portion of a second catheter device in a second intervertebral disc;

anchoring the distal portion of the second catheter device to maintain the distal portion in the second disc; and

introducing at least one ~~substance~~ analgesic or anesthetic into the second disc through the second catheter device.

57. (Currently amended) A method as in claim 56, further comprising, before or after introducing the at least one ~~substance~~ analgesic or anesthetic into the second disc, causing the patient to assume a position in which substantial spinal pain is experienced, wherein the patient observes where the position causes pain in the second disc, ~~the at least one substance includes at least one anesthetic or analgesic.~~

58. (Original) A method as in claim 57, further comprising determining which of the discs into which the at least one substance was introduced is causing the patient's spinal pain.

59. (Original) A method as in claim 35, further comprising performing a discography procedure on the intervertebral disc.

60. (Currently amended) A method as in claim 35, further comprising:
leaving the catheter device in position with the distal portion in the disc; and
administering ~~the~~ at least one treatment substance over time to provide treatment of spinal pain.

61. (Original) A method as in claim 60, wherein at least one substance is administered over time via a subcutaneous injection port or implanted pump, the method further comprising coupling the catheter device to the subcutaneous injection port or implanted pump.

62. (Original) A method as in claim 35, wherein the at least one substance is introduced automatically over a period of time.

63. (Currently amended) A method as in claim ~~[[63]]~~35, further comprising recording one or more patient inputs describing back pain experienced by the patient.

Claims 64-130 (Canceled).